TRICHORD RESEARCH

Dino Phono Amplifier

OWNER'S MANUAL

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Please read the whole of this manual before operating your Dino Phono Amplifier

TRICHORD RESEARCH

Trichord have been manufacturers of high quality audio equipment since 1993. All products are hand made to a high constructional standard and will give many years of service and pleasure.

PACKING CONTENTS

The following items are contained within the packaging provided with your Dino Phono Amplifier. If any item is missing please notify your supplier immediately.

1	This User Manual
2	AC Power Supply Unit
3	Dino Phono Amplifier

UNPACKING

Your Trichord equipment has been carefully packed to minimise the risk of damage in transit. Should the packaging show signs of damage, contact your supplier immediately.

Important

Please be sure to save all packing material included with your Phono Amplifier. This material must be used when returning the unit for service or repair.

CARE AND MAINTENANCE

The Dino casework is manufactured from high gloss acrylic. The finish may be cleaned with a little furniture polish (not wax) applied to a lint free cloth. Abrasive or household cleaners must not be used.

SERVICING

There are no user serviceable parts in the Dino. Please refer to your supplier or the manufacturer if the unit develops a fault. Please ensure that the original packaging is used if the unit needs to be transported.

INTRODUCTION

This manual explains the operation and setting of the Trichord Dino Phono Amplifier. We suggest you take the few minutes required to read this manual - it will be well worth your time. In addition we would like to congratulate you on your choice of Trichord Research amplification. It will provide many years of trouble-free operation with performance that is hard to beat at this price level.

The Dino is a high grade phono amplifier, designed for transparency and realism, it will maximise the performance of a wide range of quality cartridges from ultra-low output Moving Coils to high output Moving Magnet types.

The Dino is user adjustable with a set of four DIP switches on the underside of the unit for ease of access. These switches allow for adjustment of cartridge loading and gain setting.

The circuitry is signal non-inverting and constructed using high performance, audio grade bipolar and JFET operational amplifiers, metal oxide resistors and ultra low impedance capacitors throughout for lowest possible noise.

The RIAA equalisation network is fully passive and located between two active gain stages. The capacitors and resistors used in this stage are very close tolerance audiophile types.

Two state of the art ultra low impedance, low noise wide-band voltage regulators are employed to power both channels and are largely responsible for the high sonic performance of the Dino. A dc servo circuit is employed to keep the output dc level to a minimum.

INSTALLATION

Carefully remove the Dino from the box, retaining the packaging for later use in the unlikely event it should require servicing in the future.

Before operating your Dino, ensure that you set the relevant DIP switches on the underside of the unit for the cartridge you are using. Please refer to pages 7, 8 and 9 of this manual for correct operation of the DIP switches. The Dino is supplied from the manufacturer with the following default settings:

Moving Coil - low O/P, 100 ohms, 1.1nF capacitance

- Switch off all components in your hi fi system, remembering to turn down the volume control of the pre-amplifier or amplifier to which the Dino is going to be connected to it's lowest level.

- Connect the lead from the power unit supplied to the four pin PSU connector on the rear of the Dino.

- Connect the leads from the turntable tonearm to the phono sockets marked 'IN' on the rear panel. The red phono terminals are for the right channel and the white terminals are for the left channel. If the tonearm has a separate ground wire (usually an additional one or two wires terminated with spade connectors) ensure that this is con nected to the 'earth' binding post on the rear panel. No further ground connections need to be made between the Dino and pre-amplifier.

- Now connect the 'OUT' left and right phono sockets to the pre-amplifier using a high quality interconnect cable. Performance may be limited or compromised by the type of interconnect used; if in doubt consult your supplier.

Under no circumstances should the Dino be connected to an amplifiers existing 'disc' or 'phono' input. A line level input must be chosen, e.g. CD, Tape, Video, AUX, Line Level Phono etc.

- Check the integrity of all connections.

- Plug the power supply into the mains and switch on. The Dino should be switched on at the mains *before* other components and switched off *last*.

A blue light should be visible through the acrylic front panel of the Dino indicating that the unit is powered.

For best performance the Dino can be left switched on permanently. When switching power off, ensure that the volume control of the pre-amplifier is turned down to minimum.

When disconnecting the power lead from the rear panel of the Dino ensure that power is turned off and the blue light is fully off.

PROBLEM SOLVING

No Sound:

Check all connections to the mains and the fuse in the mains plug.

Check that the power lead is correctly inserted into the four pin connector on the rear panel ensuring that the mains power is off. Switch on the Mains. The blue LED behind the front panel of the Dino should glow. If it fails to do so then contact your supplier.

Ensure that you have inserted the turntable / tonearm leads into the correct phono sockets on the rear panel.

Ensure that the pre-amplifier source select switch is set to the correct position.

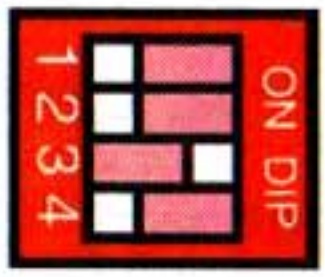
Hum or buzz:

If present on all sources then there may be a problem between the pre-amplifier and power amplifier.

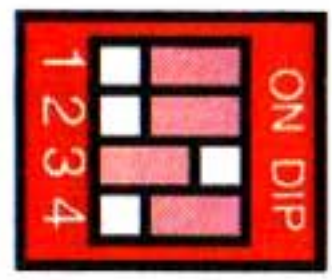
If the hum or buzz is present on one source only, first check the integrity of all the connections, then the interconnects themselves for discontinuity.

In certain circumstances, other hi fi equipment may interfere with the Dino and cause hum to be heard. First of all check that this is not due to the turntable tonearm ground being disconnected. If any hum persists then moving the Dino - perhaps a few inches may help.

DIP SWITCHES



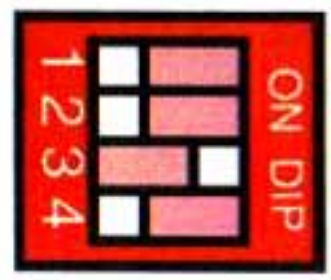
DIP1



DIP 2

DIP 1 and DIP 2 select the cartridge capacitance and resistance loading.

DIP 3



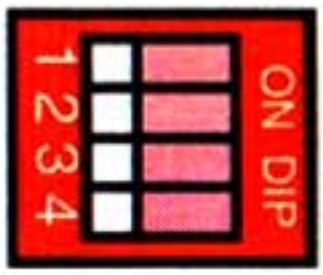
DIP 4

DIP 3 and DIP 4 select the GAIN setting of the amplifier

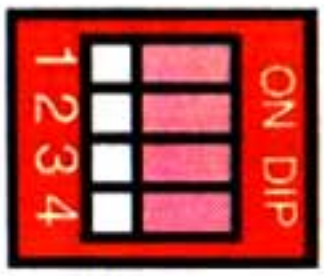
DIP 1	Cartridge loading left channel
DIP 2	Cartridge loading right channel
DIP 3	Gain setting left channel
DIP 4	Gain setting right channel

DIP 1 and DIP 2	**OFF**	**ON**
S1 = Cartridge loading capacitance	100pF	1.1nF
S2 = Cartridge load resistance	open	33 ohms
S3 = Cartridge load resistance	open	100 ohms
S4 = Cartridge load resistance	open	1K ohms
DIP3 and DIP 4		
S1 = Gain MC Very Low	48dB	74dB
S2 = Gain MC Low	48dB	70dB
S3 = Gain MC Normal	48dB	63dB
S4 = Gain MM Low	48dB	52dB
S1 - S4 ALL OFF = MM High	48dB	

CARTRIDGE LOADING DIP SWITCH SETTINGS



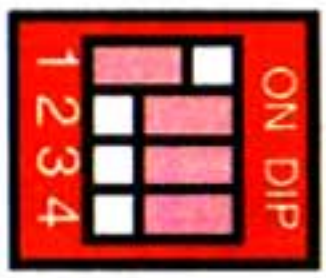
DIP 1



DIP 2

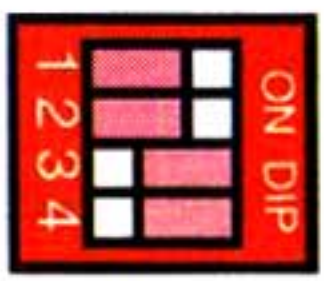
= MM 100pF / 47K ohms

DIP 1



DIP 2

= MC 1.1nF / 47K ohms



DIP 1

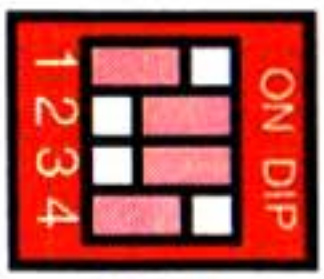
DIP 2

= MC 1.1nF / 33 ohms

DIP 1

DIP 2

= MC 1.1nF / 100 ohms



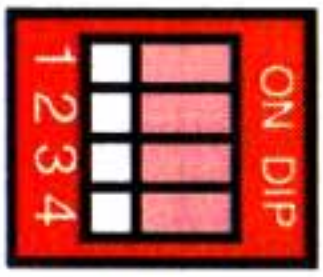
DIP 1

DIP 2

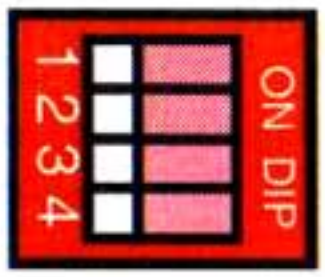
= MC 1.1nF / 1K ohms

For a balanced sound and correct operation the settings on DIP 1 must be the same as DIP 2.

GAIN DIP SWITCH SETTINGS

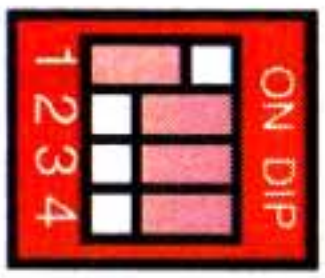


DIP 3



DIP 4

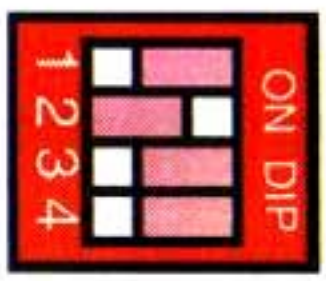
= MM High 48dB
3 - 5 mV



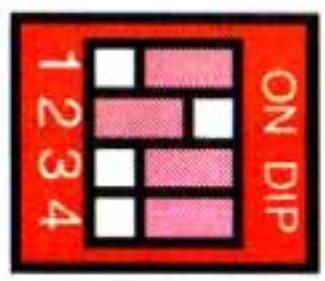
DIP 3

DIP 4

= MC Very Low O/P 74dB
0.1 - 0.25mV

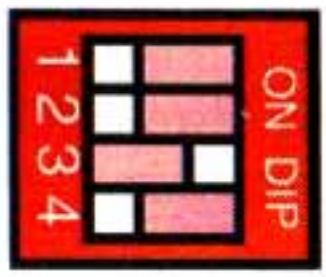


DIP 3

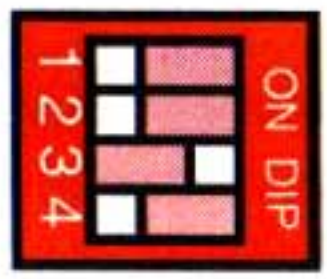


DIP 4

= MC Low O/P 70dB
0.25 - 0.4mV



DIP 3



DIP 4

= MC Normal O/P 63dB
0.4 - 0.6mV

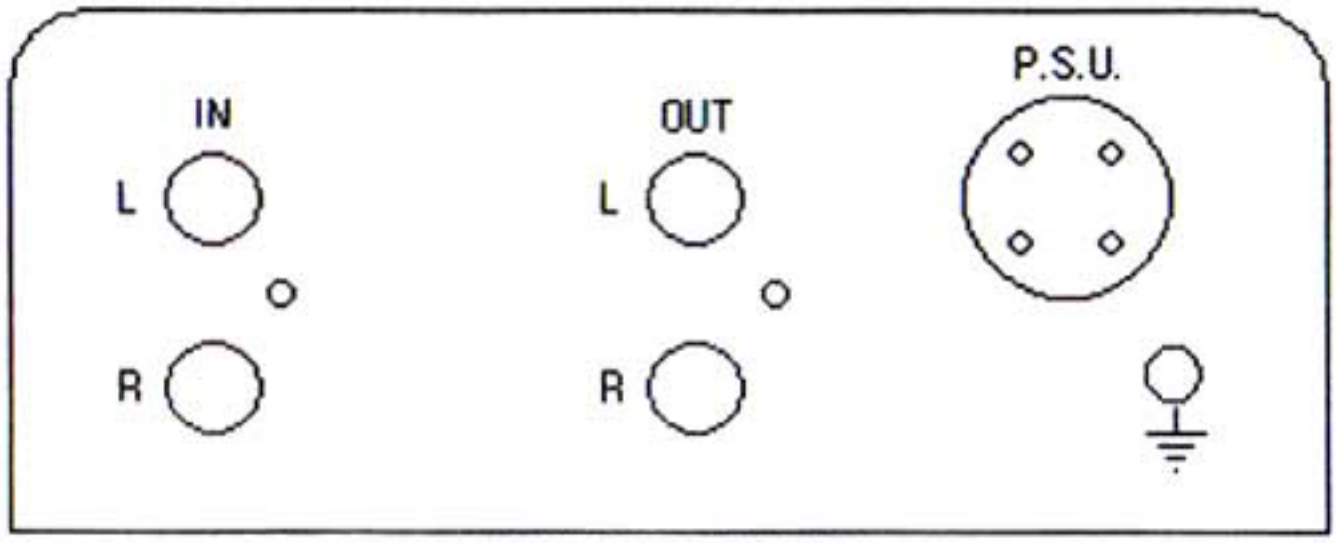
DIP 3

DIP 4

= MM Low 52dB
2 - 3mV

For a balanced sound and correct operation the settings on DIP 3 must be the same as DIP 4.

CONNECTIONS



REAR PANEL

POWER SUPPLY OPTIONS

At the time of writing there are three possible options for powering the Dino.

a) Wall connected transformer

This is the option that is supplied as standard. It is designed for basic operation yet still gives good sound quality.

b) Shared supply with Orca pre-amplifier

If you own a Trichord or Michell Orca pre-amplifier supplied with dedicated 'High Resolution' regulated supply as described in 'c' below, the power supply can be shared between the Dino and the Orca. This requires the use of a special 'Y' adapter for the connection leads between the two units.

c) Dedicated High Resolution 'Dino +' regulated supply.

This high performance power supply contains a specially manufactured low noise 80VA toroidal transformer, ultra fast soft recovery rectification for minimal generation of RFI, resistor / capacitor filtering and full active voltage regulation. This unit has been designed to provide the ultimate in sound quality.

NOTE: It is highly recommended that no attempt is made to use other manufacturers', or home made power supplies as proper operation cannot be guaranteed.

SPECIFICATIONS

Stereo Phono Amplifier for Moving Coil or Moving Magnet cartridges.

Fully Passive RIAA equalisation between two active gain stages.

Cartridge loading resistance:	33 ohms	
	100 ohms	
	1k ohms	
	47K ohmas	
Cartridge loading Capacitance:	MC	1.1nF
	MM	100pF

Switch selectable gain:	MC	Very Low Output	0.1 - 0.25mV	74dB
	MC	Low Output	0.25 - 0.4mV	70dB
	MC	Normal Output	0.4 - 0.6mV	63dB
	MM	Low Output	2 - 3mV	52dB
	MM	High Output	3 - 5mV	48dB

Can be powered from either AC or DC power supply:

AC Supply requirements:	0 - 17 Volts, 0 - 17 Volts	50/60Hz
DC Supply requirements:	0 - 22 Volts, 0 - 22 Volts	

Power consumption 5 Watts

Ultra high performance 'Super Regulators'

RIAA reproduction characteristics: 20Hz - 20KHz +/-0.5dB

Dimensions: 130mm x 58mm x 112mm (D x H x W)

Trichord Research Ltd reserves the right to alter or improve performance and specification as required; while every effort is made to ensure these instructions are comprehensive, Trichord Research Ltd can accept no liability or contingent damage.

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